

HYDROGEN RECHARGING SYSTEM FOR
FUEL CELL HYDRIDE STORAGE RESERVOIR

ABSTRACT OF THE DISCLOSURE

5 A self-contained hydrogen recharging system (5) for a
fuel cell metal hydride storage canister (100). A water
reservoir (10) provides water (15) to an electrolyzer
(20), where the water is converted into hydrogen gas (22)
and oxygen gas (24). The hydrogen gas is dried (26) and
10 then stored in an accumulator (30). When the metal
hydride storage canister is ready to be refilled, it is
connected by the user to the recharging system. A heat
exchanger (55) heats the fuel cell hydride storage
canister prior to transfer of the stored hydrogen gas, and
15 then cools the fuel cell hydride storage canister during
transfer of the stored hydrogen gas. The hydrogen gas
stored in the accumulator is rapidly transferred to the
hydride storage canister by means of a pump (60) and
stowed in the canister as a metal hydride.

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